

ABSTRACT OF THE DISCLOSURE

A gas turbine fuel injection system of the lean direct injector type designed to
5 reduce nitrous oxide (NOx) emissions is provided. The configuration includes a pilot
fuel injector for injecting a pilot fuel stream, and a pilot swirler for providing a
swirling pilot air stream to atomize and entrain the pilot fuel stream. A main airblast
fuel injector is located concentrically about the pilot fuel injector, for injecting a main
fuel stream concentrically about the pilot fuel stream. Inner and outer main swirlers
10 provide a swirling main air stream to atomize and entrain the main fuel stream. An
air splitter is located between the pilot swirler and the main swirler. The air splitter
is so arranged and constructed as to divide the pilot air stream exiting the pilot
swirler and the air splitter, from the main air stream exiting the inner main swirler,
whereby a bifurcated recirculation zone is created.